

The Journal of

# Membrane Biology

An international journal

for studies on the structure, function and genesis  
of biomembranes

**Volume 117 1990**

## Editorial Board

**W.R. Loewenstein**, Miami, Editor-in-Chief

**Q. Al-Awqati**, Columbia

**G. Blobel**, Rockefeller

**D. Branton**, Harvard

**P. Cuatrecasas**, Warner Lambert

**J.M. Diamond**, California, L.A.

**D. Engelman**, Yale

**S. Fleischer**, Vanderbilt

**J.G. Forte**, California, Berkeley

**G. Guidotti**, Harvard

**J. Handler**, Johns Hopkins

**A. Helenius**, Yale

**L. Heppel**, Cornell

**W.L. Hubbell**, California, L.A.

**R.B. Kelly**, California, S.F.

**A. Klug**, Cambridge

**P. Läuger**, Konstanz

**S.E. Luria**, MIT

**E.A.C. MacRobbie**, Cambridge

**D.J. Fritts**, Assistant to the Editor

**V.T. Marchesi**, Yale

**H.M. McConnell**, Stanford

**S. McLaughlin**, SUNY, Stony Brook

**C. Miller**, Brandeis

**H. Murer**, Zurich

**G.E. Palade**, Yale

**E. Racker**, Cornell

**H. Reuter**, Bern

**B. Sakmann**, Max-Planck, Heidelberg

**R.W. Schekman**, California, Berkeley

**S.G. Schultz**, Texas

**S.J. Singer**, California, S.D.

**C.L. Slayman**, Yale

**K.R. Spring**, N.I.H.

**C.F. Stevens**, Salk Institute

**W. Stoeckenius**, California, S.F.

**D. Urry**, Alabama

**H.H. Ussing**, Copenhagen



**Springer International**

The exclusive copyright for all languages and countries, including the right for photomechanical and any other reproductions, also in microform, is transferred to the publisher

The use of registered names, trademarks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

Printed in West Germany

© 1990 by Springer-Verlag New York Inc.





# Author Index

|   |        |  |     |
|---|--------|--|-----|
| Bergh, C., Kelley, S.J., Dunham, P.B.: K-Cl Cotransport in LK Sheep Erythrocytes: Kinetics of Stimulation by Cell Swelling  | 177    | Popovich, K.J., <i>see</i> Nelson, D.J., et al.  | 45  |
| Berteloot, A., <i>see</i> Wierzbicki, W., et al.  | 11     | Pott, L., Mechmann, S.: Large-Conductance Ion Channel Measured by Whole-Cell Voltage Clamp in Single Cardiac Cells: Modulation by $\beta$ -Adrenergic Stimulation and Inhibition by Octanol                                      | 189 |
| Burckhardt, G., <i>see</i> Simon, B.J.  | 141    | Procopio, J., Lacaz-Vieira, F.: Roles of External and Cellular $\text{Cl}^-$ Ions on the Activation of an Apical Electrodiffusional $\text{Cl}^-$ Pathway in Toad Skin   | 57  |
| Burns, A.L., <i>see</i> Pollard, H.B., et al.   | 101    | Pulsudski, R., Rougier, O., Tourneur, Y.: Reversible Activation of the ATP-Dependent Potassium Current with Dialysis of Frog Atrial Cells by Micromolar Concentrations of GDP  | 223 |
| Carmeliet, E., <i>see</i> Jorissen, M., et al.  | 123    | Rae, J.L., <i>see</i> Cooper, K., et al.   | 285 |
| Cassiman, J.-J., <i>see</i> Jorissen, M., et al.  | 123    | Rodriguez-Boulant, E., <i>see</i> Lisanti, M.P., et al.  | 1   |
| Chan, Y.L., <i>see</i> Wang, T.   | 131    | Rojas, E., <i>see</i> Pollard, H.B., et al.  | 101 |
| Cooper, K., Gates, P., Rae, J.L., Dewey, J.: Electrophysiology of Cultured Human Lens Epithelial Cells  | 285    | Rougier, O., <i>see</i> Pulsudski, R., et al.  | 223 |
| Corbett, A.M., Krueger, B.K.: Isolation of Two Saxitoxin-Sensitive Sodium Channel Subtypes from Rat Brain with Distinct Biochemical and Functional Properties   | 163    | Roy, G., <i>see</i> Wierzbicki, W., et al.   | 11  |
| Dewey, J., <i>see</i> Cooper, K., et al.  | 285    | Saltiel, A.R., <i>see</i> Lisanti, M.P., et al.  | 1   |
| Dunham, P.B., <i>see</i> Bergh, C., et al.  | 177    | Schwegler, J.S., Steigner, W., Heuner, A., Silbernagl, S.: $\text{pH}_i$ -Dependent Membrane Conductance of Proximal Tubule Cells in Culture (OK): Differential Effects on $\text{K}^+$ - and $\text{Na}^+$ -Conductive Channels | 243 |
| Gates, P., <i>see</i> Cooper, K., et al.  | 285    | Sigel, E.: Use of <i>Xenopus</i> Oocytes for the Functional Expression of Plasma Membrane Proteins ( <i>topical review</i> )   | 201 |
| Gupta, C.M., <i>see</i> Joshi, R.   | 233    | Silbernagl, S., <i>see</i> Schwegler, J.S., et al.   | 243 |
| Heuner, A., <i>see</i> Schwegler, J.S., et al.  | 243    | Simon, B.J., Burckhardt, G.: Characterization of Inside-Out Oriented $\text{H}^+$ -ATPases in Cholate-Pretreated Renal Brush-Border Membrane Vesicles  | 141 |
| Jørgensen, P.L., <i>see</i> Wiener, H., et al.  | 275    | Soliven, B., Nelson, D.J.: Beta-Adrenergic Modulation of $\text{K}^+$ Current in Human T Lymphocytes   | 263 |
| Jorissen, M., Vereecke, J., Carmeliet, E., Van den Berghe, H., Cassiman, J.-J.: Outward-Rectifying Chloride Channels in Cultured Adult and Fetal Human Nasal Epithelial Cells   | 123    | Spring, K.R., <i>see</i> Lowy, R.J.  | 91  |
| Joshi, R., Gupta, C.M.: Sulfate Self-Exchange and Amino Acid Transport in Calcium-Loaded Human Erythrocytes   | 233    | Steigner, W., <i>see</i> Schwegler, J.S., et al.   | 243 |
| Jow, B., <i>see</i> Nelson, D.J., et al.  | 29, 45 | Tourneur, Y., <i>see</i> Pulsudski, R., et al.   | 223 |
| Jow, F., <i>see</i> Nelson, D.J., et al.  | 29     | Van den Berghe, H., <i>see</i> Jorissen, M., et al.  | 123 |
| Kelley, S.J., <i>see</i> Bergh, C., et al.  | 177    | Vereecke, J., <i>see</i> Jorissen, M., et al.  | 123 |
| Klaerke, D.A., <i>see</i> Wiener, H., et al.  | 275    | Verkman, A.S., <i>see</i> Zhang, R.  | 253 |
| Krueger, B.K., <i>see</i> Corbett, A.M.   | 163    | Völkl, H., Lang, F.: Effect of Potassium on Cell Volume Regulation in Renal Straight Proximal Tubules  | 113 |
| Krupka, R.M.: Expression of Substrate Specificity in Facilitated Transport Systems  | 69     | Wang, T., Chan, Y.L.: Time- and Dose-Dependent Effects of Protein Kinase C on Proximal Bicarbonate Transport   | 131 |
| Lacaz-Vieira, F., <i>see</i> Procopio, J.   | 57     | Wiener, H., Klaerke, D.A., Jørgensen, P.L.: Rabbit Distal Colon Epithelium: III. $\text{Ca}^{2+}$ -Activated $\text{K}^+$ Channels in Basolateral Plasma Membrane Vesicles of Surface and Crypt Cells                            | 275 |
| Lang, F., <i>see</i> Völkl, H.  | 113    | Wierzbicki, W., Berteloot, A., Roy, G.: Presteady-State Kinetics and Carrier-Mediated Transport: A Theoretical Analysis  | 11  |
| Lisanti, M.P., Rodriguez-Boulant, E., Saltiel, A.R.: Emerging Functional Roles for the Glycosyl-Phosphatidylinositol Membrane Protein Anchor ( <i>topical review</i> )  | 1      | Yoda, A., Yoda, S.: CCCP Activation of the Reconstituted NaK-Pump  | 153 |
| Lowy, R.J., Spring, K.R.: Identification of Riboflavin Transport by MDCK Cells Using Quantitative Fluorescence Video Microscopy   | 91     | Yoda, S., <i>see</i> Yoda, A.  | 153 |
| Mechmann, S., <i>see</i> Pott, L.   | 189    | Zhang, R., Verkman, A.S.: Urea Transport in Freshly Isolated and Cultured Cells from Rat Inner Medullary Collecting Duct   | 253 |
| Nelson, D.J., <i>see</i> Soliven, B.  | 263    |  |     |
| Nelson, D.J., Jow, B., Jow, F.: Whole-Cell Currents in Macrophages: I. Human Monocyte-Derived Macrophages   | 29     |  |     |
| Nelson, D.J., Jow, B., Popovich, K.J.: Whole-Cell Currents in Macrophages: II. Alveolar Macrophages   | 45     |  |     |
| Peracchia, C.: Effects of Caffeine and Ryanodine on Low $\text{pH}_i$ -Induced Changes in Gap Junction Conductance and Calcium Concentration in Crayfish Septate Axons  | 79     |  |     |
| Pollard, H.B., Burns, A.L., Rojas, E.: Synexin (Annexin VII): A Cytosolic Calcium-Binding Protein which Promotes Membrane Fusion and Forms Calcium Channels in Artificial Bilayer and Natural Membranes ( <i>topical review</i> ) | 101    |  |     |

Covered in *Current Contents*, *SCI*, *ASCA* and *ISI BIOMED*

